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Postprint / Postprint
Zeitschriftenartikel / journal article

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Article — Accepted Manuscript (Postprint)

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Research Policy

Provided in Cooperation with:
WZB Berlin Social Science Center

Suggested Citation: Rüffin, Nicolas (2020) : EU science diplomacy in a contested space of multi-level governance: Ambitions, constraints and options for action, Research Policy, ISSN 1873-7625, Elsevier, Amsterdam, Vol. 49, Iss. 1 (Article No.:) 103842, http://dx.doi.org/10.1016/j.respol.2019.103842

This Version is available at:
http://hdl.handle.net/10419/223304

Title

EU science diplomacy in a contested space of multi-level governance: Ambitions, constraints and options for action

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Acknowledgements

This paper was written in the context of the research project EL-CSID that receives funding from the European Union's Horizon 2020 research and innovation program [Grant Agreement No 693799].

The author would like to thank Dr Ulrich Schreiterer, Dr Tim Flink and three anonymous reviewers for their helpful comments and suggestions that greatly improved the manuscript and María del Rocío Fonseca Sasian for her support in processing the interview material.

Abstract

Science diplomacy recently has gained a remarkable foothold in European policymaking. Both the European Commission and many Member States use the term to label a whole range of issues and activities in their respective policies. This prompts the question what exactly is the current role of the European Commission in the field of external research policies as compared to the Member States traditionally in charge of it. The article draws on the conceptual framework of multi-level governance, in particular the distinction between Type I and Type II governance systems. The aim is to show that the well-established setups for science policy and foreign affairs in the EU at present channel most of the Commission's activities in ways that not run counter to the interests of the Member States. The institutionally set parameters entail a focus on existing programs and activities. However, the Type II character of science diplomacy governance in principle leaves room for changes in jurisdictions and the division of labor, which are subsequently discussed. The paper's argument rests upon the qualitative analysis of expert interviews conducted with representatives from Member States, the Commission, Switzerland, and the US.

Keywords: science diplomacy, foreign policy, science policy, international relations, multi-level governance

1. Introduction

The term "science diplomacy" (SD) has undergone a stellar career around the world and has gained a foothold in European policymaking during the last decade as well. The advocates of the concept claim that SD innovatively links foreign policy and science and technology (S&T) policy, builds bridges between hitherto separate communities of experts, converts existing divisions of labor between actors and policy areas, and thus has a genuinely transformative character (Lord and Turekian, 2007). However, it has not been sufficiently clarified what different policy actors mean by the term and whether it actually changes established setups in interna-

tional affairs and S&T policy. To close these gaps, this paper addresses these questions using the case of SD in the European Union.

The European Commission (EC) and several Member States have adopted the term in running their foreign affairs and external science policy. In 2016, EU-Commissioner Carlos Moedas called for SD to become a priority for the policies of the Commission (Moedas, 2016). Whether this means, however, that Member States and the Commission have a similar understanding of SD and whether it follows from this that the activities of both sides overlap, compete, or complement each other is not yet clear. It is not a foregone conclusion that the different European players foster a concerted approach of "EU science diplomacy". In fact, we currently know little about the interactions between Member States' interests and activities and that of the EC. There are studies on different national approaches to SD (Flink and Schreiterer, 2010) and on the Commission's very recent take on international science policymaking (López de San Román and Schunz, 2018; Prange-Gstöhl, 2018). Yet so far, little attention has been paid to the relations between both. In the past, the EC has repeatedly called for closer collaboration between the European level and the Member States in foreign relations and external science and research policy (European Commission, 2014, 2012, 2008; European Union, 2016). A glance at some of the relevant strategic documents of larger Member States, however, shows that little to no attention has been paid to the role of cooperation with the Commission in SD-related issues beyond collaboration in established policy initiatives like the European Research Area (ERA) (e.g. BMBF Federal Ministry of Education and Research, 2016; HM Treasury & Department for Business, Innovation & Skills, 2014; MAEA Ministry for Europe and Foreign Affairs, 2013). Up until now, it is an open question which understandings of SD prevail–and subsequently which place SD seizes–within the institutional framework of contemporary European multi-level governance (MLG). SD may well serve as a *boundary object*, which actors use to justify, stabilize or even expand their own competences, be it in alignment with, or at the expense of, other actors.

The article addresses these questions by analyzing the EC's current agendas and activities in this emerging field in comparison to those of the Member States. In particular, it looks into how the different actors appraise each other's activities and aims at identifying patterns of collaboration or competition. More fundamentally, it draws on the perspective of MLG scholarship as an appropriate tool to understand and account for the interplay of the different actors in the area of SD. Subsequently, it investigates whether SD infuses any potential for change in the current setting of European MLG. Moreover, it sheds light on what the different actors are thinking about such a potential, and whether such a change—in particular a shift in authority from the Member States' administrations to the European level—may even already be under way. The article relies on empirical data from expert interviews with representatives of national public administrations and research organizations from the Member States as well as from the Commission.

The paper is organized as follows: First, it provides a short overview of the activities labeled as SD in several European states, highlighting their major characteristics at the nexus of science policy and foreign affairs. Second, it introduces the MLG perspective as suitable framework for the analysis and describes the setup of European policymaking in both policy fields against the backdrop of this theoretical approach. Third, it presents the findings from the interviews that illustrate the status-quo of European SD on the levels of strategic planning, program implementation, and operations. Finally, the paper discusses theoretical implications and consequences for policymaking of the current state of affairs in the field of European SD.

2. The emergence of science diplomacy

SD is a recent term that was initially coined, and subsequently more systematically used, in the United States. It came up during the late 1990s after expert reports had recommended to better integrate science-related expertise into the US State Department's policies (Lord and Turekian, 2007; National Research Council, 1999).

Around 2005, the term became increasingly popular, both as a catch-all phrase and as a panacea concept for a country's or an organization's external engagement in S&T, for international activities to tackle global challenges, and finally to foster soft power capacities. At the same time, SD has been understood to nurture bi- and multilateral relations, buttress national innovation systems, and contribute to economic growth (Copeland, 2016). In 2010, the British Royal Society and the American Association for the Advancement of Science jointly published a seminal report that highlighted three different elements of SD (Royal Society, 2010): s*cience in diplomacy* refers to scientific advice in general and science-based counsel to foreign services in particular. *Diplomacy for science* embraces foreign policy activities that aim at facilitating international scientific collaboration, the exchange of researchers, and the promotion of domestic innovations. Finally, *science for diplomacy* characterizes collaborative scientific activities that may help foster inter-state relations.

However, it is important to note the difference between the deliberate use of the *label* SD—which is a phenomenon of the recent past—and *activities* which would qualify as SD but are older. Examples for the latter are the Track II diplomacy initiatives at the European Organization for Nuclear Research CERN (Müller and Bona, 2018; Schopper, 2009) or policies pursued by the US administration in the 1970s (Turekian, 2018).

The explicit use of the label *SD* has proliferated among the Member States of the EU for at least the last decade. Several countries, for instance, the UK, France, and Germany were among the first worldwide to engage the concept of SD by establishing science and innovation networks, setting up outposts for national S&T overseas, and dispatching S&T counsellors abroad (Flink and Schreiterer, 2010). The Commission participated in the discourse on the international dimension of the European S&T sector but has only started to use the term "science diplomacy" more recently. When Carlos Moedas became Commissioner for Research, Science and Innovation in 2014, he stressed its importance and potential benefits for Europe. In particular, he referred to the soft power of S&T for improving the EU's external relations

(Moedas, 2016). Still, a better integration of science into the EC's foreign policy agenda is mentioned in the *Global Strategy for the European Union's Foreign And Security Policy* (European Union, 2016) only en passant.

Other incumbents of the field include intermediary, partially autonomous organizations like the already mentioned Royal Society, national research funding bodies like the British Research Councils[1] or the German Research Foundation (DFG), international organizations such as UNESCO, or transnational academic associations like the International Council for Science (ICSU).These different actors have begun to use the term SD to varying degrees in order to (re-)label their ongoing operations or to develop new activities attached to it.

From this brief and non-exhaustive overview it already becomes clear that SD in Europe is a very diverse and highly fragmented policy area that stretches across multiple levels. SD as a label is not unambiguous, but rather fuzzy and, depending on the user, can have a whole range of meanings. It seems plausible to assume that SD thus becomes part of the boundary work (Gieryn, 1983) of different communities and actors who strive to interpret the term in their own interest. Yet these floating interpretations of the term are insufficiently captured by the Royal Society's threefold definition. The paper does not propose a definition of its own. Instead, it aims to determine what individual actors considered as belonging to this policy area. Following this empirically based approach, tensions, conflicts, but also opportunities for cooperation between actors then arise from understandings of SD that are either shared by or heterogeneous among actors. How can we characterize, and make sense of, the relation between the Member States' policies and that of the EC aside from announcement in policy documents?

3. Approaching science diplomacy via the multi-level governance perspective

[1] These institutions were merged to UK Research and Innovation (UKRI) in 2018.

To answer this question, we have to take into account the institutional framework which shapes the interactions of the Commission and the Member States in the fields of foreign affairs and science policy (Prange-Gstöhl, 2018).

3.1 The multi-level governance framework

The MLG approach serves as the conceptual starting point for this undertaking. By turning to this framework, we can analyze the complex interplay between the different incumbents of the field and answer the question whether there is any functioning type of de facto SD governance arrangement in Europe.

MLG originally developed as part of the study of European integration. In a nutshell, it postulated a decentralization of competencies, a shift of jurisdictional powers away from the Member States' administrations, and put the spotlight on the supranational and subnational level of European policymaking (Marks, 1993; Marks et al., 1996). The approach has attracted a tremendous amount of attention and has inspired numerous European integration studies (for an overview see Piattoni, 2009; Stephenson, 2013; Zürn et al., 2010). The actor-centered MLG framework moves beyond simplistic conceptualizations of principal-agent relations between the Member States and the European institutions. In this view, political authority resides not only at the level of national governments but also at subnational (federal) institutions as well as European bodies, in particular the Commission and the European Parliament. This is not to say that European nation-states are replaced by a supranational entity or a conglomerate of regions. Rather, leading scholars of MLG recognize the continuing authority of Member States but place a stronger focus on the interaction of regions, the Commission, and nation-states (Schakel et al., 2015). In sum, European policymaking is more pluralistic, networked and complex than purely state-centered approaches assume. Hence, processes of integration do not follow a general logic but take place to varying degrees in specific policy areas. The MLG approach has proven useful to analyze various European policy areas, including foreign affairs

(Smith, 2004; Webber et al., 2004) and S&T policy (Kaiser and Prange, 2004). We know from these and others analyses that science and foreign policies have developed separately for the most part in the course of European integration (see also Börzel, 2005; Marks et al., 1996). With regard to different policy areas, the distinction between Type I and Type II governance systems put forward by Marks and Hooghe (2003; 2004) is of particular importance for the present paper. They distinguish relatively stable governance systems with clearly defined responsibilities and jurisdictions—so-called Type I systems—from more flexible Type II constellations in which jurisdictions overlap and are much more in flux. As I will argue in the following paragraphs, it is appropriate to consider science policy and foreign affairs as mostly separate Type I policy areas while SD is located at the ill-defined juncture of both fields, thus establishing an area of Type II governance.

3.2 The institutional setup for science diplomacy in Europe

While it is considered to be part of "the external engagement of the EU in science and research policy" (Prange-Gstöhl, 2018, p. 160), SD also relates to the areas of international relations and 'high' politics, such as security policy (Edler and James, 2015; López de San Román and Schunz, 2018). It is therefore important to briefly describe the MLG governance settings in these traditional areas insofar as they affect, or even determine, policymaking that relates to SD.

Policy coordination in the EU (and previously, the European Communities) has always shifted between different and often competing polity-ideas (see, for instance, Edler, 2010; Jachtenfuchs et al., 1998; Papon, 2009), ranging from a strong integration on a supranational level to purely intergovernmental approaches. S&T policy and foreign policy are no exception to this rule and, thus, have seen different phases of policy coordination that can be characterized by differences in the division of labor and jurisdictional powers ascribed to the European institutions (e.g. European Commission, European Parliament, European Court of Justice) on the one hand, and the Member States on the other.

In science policy, initial examples of collaboration, such as CERN, rest on intergovernmental agreements. It was not until the early 1980s that the Commission attempted to gain a foothold in research and development (R&D) policy when the first technology-push funding programs in areas of ICT and new materials triggered the new Framework Programmes (FP) (Stein, 2002). Eventually, the Commission managed to increase its influence, and to extend both its responsibilities and resources in matters of S&T policy. Starting with FP6 in 2002, the Commission brought about several important changes, including a major financial boost for FP7, the launch of the European Research Council (ERC), several new coordination mechanisms under the auspices of the European Research Area (ERA), the roadmapping for large scientific infrastructures, joint programming, and policy coordination. The primary rationale of the FPs and the Commission's research policy in general was—and arguably still is—to strengthen Europe's competitiveness against other states or world regions, in particular, the US, Japan and, more recently, the BRICS.

Still, and in spite of the significant expansion of its activities, the Commission has at no time gained exclusive authority over the Member States' national science policies and programs. Instead, rights and obligations of all involved actors derive from legally enshrined agreements and well-established procedures. This already indicates that—from the MLG perspective—S&T is a Type I-dominated policy area. Organizing and funding of research remain core jurisdictional competencies of the Member States. This applies to all dimensions of external engagement in science and research as well. The EC's activities in this area cannot simply forgo the institutional framework of shared responsibilities between itself and the Member States. Instead, they have to adjust accordingly, first and foremost by demonstrating complementarity or added value. In a nutshell, the Commission has limited leverage to push its agenda in major fields of science policy without first consulting with the Council and the European Parliament, for instance, in the *ordinary legislative procedure* (formerly co-decision) preceding the start of new FPs.

The EU's foreign policy, on the other hand, represents a MLG system in its own rights. Similar to S&T policy, it has undergone several steps of integration that came often along with particular treaties (Smith, 2016, 2004; Wong and Hill, 2011). Over a period of almost 40 years, we have seen a whole catalog of political initiatives to nudge Member States to better coordinate their external affairs, starting with the now famous *Davignon*-report on the future of a joint foreign policy of the European Economic Community from 1970 (European Communities, 1970). That report paved the way for the instrument of European Political Cooperation (EPC) which in 1986 became institutionalized in the Single European Act (SEA). Less than ten years later, the Member States agreed on a Common Foreign and Security Policy (CFSP) as one of three pillars in the Treaty of Maastricht taking effect in 1993. In 2009, the Treaty of Lisbon marked the most recent critical juncture for the EU's foreign policy (Laursen, 2014). Recognizing the need for a stronger and more visible foreign policy, a new service department came into being: the European External Action Service (EEAS). The hybrid structure of the EEAS, is "one of the most important foreign policy inventions in Europe to date" (Adler-Nissen, 2014, p. 2) and neatly illustrates the complexity of the policy field. Most of the EEAS's staff is temporarily assigned from national foreign ministries, while some officers are recruited from the Commission's administration, creating an "interstitial organization" between the Commission and the Council (Bátora, 2013).

In terms of the MLG-perspective, foreign affairs represent another Type I-dominated policy area in that all actors must adhere to the intricate framework of treaties that define their respective roles in this particular MLG-setting. De facto, as in the case of S&T, it is a field in which Member States retain enormous powers which they do not transfer to the Commission as a supranational entity. Neither does the EEAS's head, the High Representative for Foreign Affairs and Security Policy, act as an EU's minister or Commissioner for foreign affairs, nor does the service replace, supersede, or dominate national foreign offices and services. In matters of

'high politics', Member States maintain a key position in decision-making, meaning that European diplomacy may only attend to topics of lesser importance or delicacy (Smith, 2016).

In sum, science policy and foreign affairs constitute two jurisdictional areas that lean towards Mark's and Hooghe's ideal Type I of MLG. They are characterized by a rather clear-cut, often legally enshrined division of competencies and a finite number of actors and levels.

Turning to what we have come to call SD, we find that the activities linked to this label reside at the intersection of both policy areas. SD as a newly emerging area or polity does not (yet) fit into the scheme of clearly delineated, legally defined, jurisdictions. Based on the theoretical notions of Marks and Hooghe (2003; 2004), it is more appropriate to conceptualize SD as a Type II MLG system, that is "a complex, fluid patchwork of innumerable, overlapping and functionally specialized jurisdictions" (Zürn et al., 2010, p. 4). Policies concerning SD might touch upon innumerable jurisdictions—basically including all communities who are keen to use the term for their own purposes—but the MLG perspective helps to identify the crucial levels and to maintain oversight of the actors and their relations. It then becomes an empirical question how this fluctuating space is filled by the activities of established incumbents from science policy and foreign affairs from the EC, the Member States' administrations, subordinate agencies, and non-governmental organizations. In other words, how does SD fit into the picture of overlapping jurisdictions and competing actors?

4. Methodological considerations, data and analytical approach

To examine this question, 45 semi-structured, guideline-based expert interviews were conducted. The selection strategy was meant to cover the different actors and levels of SD, in particular well-established incumbents of the field known from previous research (Flink and Schreiterer, 2010). Furthermore, interviews from a smaller Member State (Denmark) were added to the sample to provide a contrastive and more differentiated picture of SD in Europe. Based on these specifications, interviews with 32 representatives from four Member States

(FR: 7; DE: 16; DK: 3; UK: 6) and six representatives from the EC were conducted. These officials were concerned with, or in charge of, formulating and managing the international activities of their respective organizations. Therefore, they were considered *ex officio* experts for the topic of SD in the widest sense of the term to the extent that they were capable of describing and illuminating their organization's position towards the topic and with regard to the other actors in the field. In the interviews, however, no explicit definition (e.g. the Royal Society's) was prescribed. Instead the actors were invited to employ their own understanding of SD. Thus, their statements were part of specific attempts to define demarcations and jurisdictional claims, which in turn helped to reconstruct the frame of reference for SD in the system of European governance.

The interviewees' expertise did not exclusively stem from personal experience in directly conducting SD-related activities but also from tasks like, for instance, supervising the respective actions or from drafting relevant documents and managing and monitoring the strategic planning procedures.[2] The selection aimed at covering a wide set of actors in the respective national systems for the governance of foreign affairs and S&T. In consequence, the interviewees were members of ministries responsible for foreign affairs or research respectively, S&T counselors at embassies, or representatives from funding agencies or research organizations.[3] The EC's officers belonged to the EEAS, the Directorate General Research and Innovation (DG RTD), or the Joint Research Centre (JRC).

To complement the intra-EU perspective, another four interviews were conducted with members of US research institutions and funding agencies, and three with officials from Switzerland. The interviews took place between January 2017 and May 2018. 41 interviews were au-

[2] The underlying understanding of "expertise" seems necessary to sufficiently cover the width of SD related activities.

[3] The interview partners were assured that they would remain anonymous. Therefore, an exact breakdown of functions and organizations cannot be provided.

dio-recorded and transcribed; the other four were extensively documented with notes. Interviews that were not conducted in English were translated afterwards.

The guidelines were developed against the backdrop of Mayring's methodology for qualitative content analysis (Mayring, 2014, 2000). Following a deductive approach, the basic categories of analysis were derived from the MLG perspective. In order to ensure a fine-grained description of the current system of SD governance, the guidelines consisted of questions on the individual organizational SD strategies, agendas, and activities. The categories encompassed the mutual perception of the actors from the Member States and the EC respectively (e.g. positive or negative appraisal). Building on this framework, additional categories were inductively developed based on the interview data by clustering the different statements into three levels of engagement. The first is concerned with strategic planning and decision-making, the second deals with programs, and the last aggregates operational activities on the ground. This heuristic division runs transverse to the categories of actor relationships and helps to make sense of their SD related activities analytically.

5. The relations between the Member States and Commission

First of all, the data confirms that the MLG framework provides a suitable approach for the analysis close to the actors' own perspectives. Very much in line with insights from the literature, the interviewees' statements show that they themselves conceptualize European governance against the background of multi-level considerations (Stephenson, 2013), and consequently structure their activities and perceptions along the lines of these established demarcations and boundaries. The interview partners were aware of the different options for organizing SD in the complex European policy environment, be it jointly at the supranational level, bi- or multilaterally among the Member States or independently on the national level:

> *"Are we talking about [a] European level science diplomacy or Member States' science diplomacy or both? Are we talking about* [SD, author's note] *at regional level, at national level, at institutional level or even individual level?"* [EC-2][4]

> *"So, with us, there is a bit of dualism between doing something in Brussels, or doing something bilaterally."* [DE-2]

In order to understand the intricate interplay of options adequately, the analysis employs the heuristic categories of strategic planning, program activities, and operations on the micro-level. These categories also reflect to some extent the classifications the interview partners used in the interviews as part of their boundary work.

5.1 Strategic planning and decision-making

The level of strategic planning and decision-making sets the stage for conflicts and disagreements over the architecture of jurisdictions and authority. Here, the lasting effects of the policies of European integration, as outlined in section 3, shape the jurisdictional views and expectation of the Member States and the EC.

Quarrels and tensions at this level deal with the substance of the institutionalized Type I governance systems and address and challenge established divisions of labor both in functional terms (i.e. between science and foreign policy) and with regard to the actors involved. Most prominently, they manifest in discords over jurisdiction between the Commission and the Member States that mirror conflict lines between national interests and the EC's agenda. The interview partners from the Member States' administrations, regardless of their nationality, took a firm stand against a leading role of the Commission in SD and all claims coming along with that:

> *"The EU always tries to take possession of things, that's only natural and I generally have no objections to that. But there are some Member States, including my own that would ask: does it do any good if the EU takes control over something that is our genuine topic?"* [DE-12]

[4] This and the following quotations are meant to illustrate the findings of the analysis and to highlight particularly important insights. All quotations were slightly language edited for improved readability.

They outright rejected scenarios according to which the Commission would coordinate national SD activities in a supranational manner, drawing on two arguments: First, the interviewees, as part of their boundary work, referred to the EU treaties and the legal documents that codify rights and obligations for the Member States and the EC respectively. For all of them, the rationale of added value served as a key point of reference. SD activities of the Commission, in this view, would have to complement national endeavors, be it in negotiations with third countries or in intra-European bargaining over science funding and joint European research initiatives.

Even within the Commission, strategic considerations were based on providing added value to national efforts:

> *"But then of course we also struggle among Europeans, now I'm not talking only about EU institutions, to identify the correct added value of the EU vis-à-vis national initiative and so to operate as a single effective team."* [EC-3]

Regardless of the specific interpretation of added value, it became clear that even if the EC succeeded to make such an argument, it would be a difficult battle to gain a foothold in strategic SD initiatives. The quotes illustrate the legal framework that constitutes the rather well-defined division of labor in the areas of foreign affairs and science policy in the EU and acts as a cognitive guideline for the involved actors.

Second, it was a reoccurring topic in the interviews that an excessive engagement of the Commission in SD would not only violate established jurisdictional arrangements but would also diminish efficiency. National authorities could implement, fund, and monitor their SD activities without having to coordinate with another 27 players. These arguments notwithstanding, all interviewees highly appreciated intergovernmental—meaning inter-state, horizontal—coordination between the EU Member States, depending, of course, on topics, but also on the respective strengths and weaknesses of the partners involved. Yet they all were adamant that it should remain the prerogative of Member States to launch such collaborative initiatives and

venues. In the multi-level governance setting of the EU, strategic actions should, in this view, primarily originate bottom-up from the Member States but not top-down from the EC.

It is noteworthy though that not a single representative from the different organizations did entirely reject a strategic role for EC in SD. Interviewees from funding agencies, research organizations, and from national administrations all stressed their great interests to remain in good standing, or at least in coming to terms with the EC. Across the board, the interview partners from the Member States acknowledged the agency of the Commission as long as it matched the well-established, carefully balanced procedures in the areas of foreign affairs and S&T policy. Overall, the general attitude of the interview partners was geared towards continuity. A shift in authority from the Member States to the EC was not demanded and contestation of the current system of governance remained weak.

The interviews with Swiss and US-American researchers and government officials supported this finding. Aside from PR to promote the Union's program activities, they rarely regarded the Commission as a strategic actor in the field of SD. Instead, they were more familiar with national and organizational strategies, in particular, those of the Member States with strong science sectors and extensive funding capabilities. Acknowledging these institutional and factual constraints could be the reason why one officer from the Commission frankly stated "We don't have a specific strategy for science diplomacy. It would exaggerate our attitude if I would characterize it in these terms." [EC-3] Instead, Commission staff indicated that they would explore the potential of SD within the framework of existing treaties and responsibilities which brings us to the level of programmatic activities.

5.2 The program level

Turning from the level of agenda-setting and strategic planning to the better-defined level of policy initiatives and programs, we find that the Commission is not a simple agent of Member States' interests but possesses some degrees of freedom to engage in SD. There, the analysis

found much more openness and commonly accepted opportunities for the Commission to take an active or even a leading role. This is very much in line with insights from general MLG-scholarship that stress both the relevance of actors beyond the nation state and the shifts in authority towards these entities as long as these degrees of freedom in policymaking derive from well-established jurisdictional demarcations in specific policy areas.

For instance, once a FP has passed the legislative process, the Commission has some leeway to initiate project calls tailored to issues of SD. Other examples brought up by the interviewees are initiatives like the ERA which entail a great many supporting activities like the ERA-NETs or joint programming initiatives[5], explicitly designed to bring together national and regional funding agencies and ministries to collaborate and horizontally coordinate S&T activities (and policies) within the EU.

The same rationale applies to the association agreements to Horizon 2020 that quite a few non-EU countries have signed or the 20 Science and Technology Agreements (STAs) concluded by the Commission on behalf of the Member States. Carlos Moedas, for instance, traveled to Kiev in March 2015, to sign an association agreement that allowed the Ukraine to take part in Horizon 2020. It became "the first EU programme in which Ukraine has chosen to participate following the beginning of provisional application of the EU-Ukraine Association Agreement" (European Commission, 2015). Of course, that may have been an exception. Nevertheless, the event demonstrated the opportunities of using Horizon 2020 for promoting science for diplomacy. The Commission's support for scientific collaboration in the Western Balkan region may follow a similar rationale. At the bottom line, S&T add another layer of symbolic interaction to the diplomatic toolbox:

> *"[…] since we also support external policies, including the European neighborhood policy, there is an interest for us not only to associate those countries that have excellent science and technology capacities but also those that we want to be part of the Eu-*

[5] See https://www.era-learn.eu/p2p-in-a-nutshell/type-of-networks/joint-programming-initiatives, accessed 31 October 2018.

> *ropean project in terms of integrating them into the European Research Area. And by integrating them into such an area, you create stability, you create links, and so it's science diplomacy…"* [EC-3]

Here, SD is not framed as a policy field on its own but rather considered to be an instrument in the toolbox of foreign policy thus taking its place in an already established Type I governance system. Officials from the EC try to enlist SD, for instance, in the context of European Neighbourhood Policy (ENP), or in the EEAS's Foreign Policy Instruments (FPI) framework. However, all these uses of SD occur on an ad-hoc basis only, for instance, when reaching out to countries in the Mediterranean or in the Eastern Partnerships. Moreover, all these instruments carry a rather small budget compared to the dimensions of funds that DG RTD commands for its programs.

Regardless of their respective resources, the Member States tolerate or even approve of such motions of the Commission as long as they are consistent with well-kept institutional boundaries. The program level provides the EC with something like a legitimate ticket to go for the integration of SD instruments since this does not challenge the setup of European MLG. Consequently, Member States and EC work side by side without strong interaction, coordination, or fierce competition. Nevertheless, both sides monitor each other's activities.

The Commission's SD is by no means the only approach to trans- and supranational S&T policies in Europe. For historical reasons, the Member States are free in the choice of their policies in SD and pursue their objectives in various forms (see also Flink and Schreiterer, 2010). Some of them collaborate closely on several occasions and topics, thus adding another layer to the MLG system of European SD. Intergovernmental research organizations like CERN, the European Space Agency ESA, or the funding initiative EUREKA have been at the core of transnational research collaboration in Europe for a long time (Papon, 2004). While the EC has turned into a partner in many of these endeavors, the Member States continue to guard their national interests against any possible infringement from the side of the Commission. This, of course,

does not prevent the EC from taking the most credit for these European success stories (e.g., Moedas, 2016). In other areas, countries or individual organizations may pool their resources on a bi- or multilateral basis without consulting the other Member States' governments or the Commission. One rationale for this pragmatic approach to SD is that Member States "try to organize things at the European level as well" [FR-5] primarily if they expect a positive return on their respective investment. Larger countries are well aware of the fact that they "can enforce their own interests" [DE-3]. Hence, they can afford to assign horizontal intergovernmental collaboration *and* cooperation with the EC basically at the same level of importance, as one interviewee frankly put it:

> *"Sometimes, doing things together can open doors. Whether it's just me with my German colleague or whether it's me with the EU delegation and the Swedish and the Spanish, it opens the same doors. So we could do it just two or three countries without the EU"* [FR-5].

On the other hand, some interviewees emphasized the advantages of joint activities as "there is a danger that all Member States establish something like this [S&T network outposts, author's note] in the same region" [DK-3]. The Commission's role—according to an interview partner from Denmark—then was to act as a kind of representative of those Member States that are "not […] so well represented in some of the new emerging markets or new research and innovation hotspots around the world. Of course, they would have a stronger interest in doing something common and under the umbrella of the EU" [DK-1]. Activities like the conclusion of Science and Technology Agreements (STA) or the international promotion of the FPs came up as examples that could facilitate external S&T activities from (smaller) Member States which otherwise would not stand a chance to participate in SD with much larger third countries.

The views from Switzerland and the US back the hypothesis that the Commission has some leverage on the program level. For instance, participation in the FPs is a top priority for science policy in Switzerland. The same is true for the US. US institutions and the Commission have

put a lot of effort into eliminating bureaucratic barriers for US scientists to participate in Horizon 2020. The example of the negotiations between the EU and Switzerland on matters of migration is just another case in point where science became a "coercive measure to enforce compliance with broader issues of European Politics" (Leese, 2018, p. 51). This example also illustrates the potential power that the EU can harness vis-à-vis third countries if all Member States and the Commission develop joint positions in SD-related negotiations.

5.3 The operational level

When it comes to the level of individual action, the shackles of the institutionalized governance system are turning ever more elastic, thus illustrating the fluid characteristics of a Type II governance system. In the analysis, particular attention was paid to those activities that the Member States and the Commission engage in abroad. Empirically, both parties are pursuing these activities side by side. The Commission, for instance, maintains a network of S&T counselors with the EU-delegations in several non-member countries. The EEAS is responsible for these delegations, including S&T counselors. However, S&T staff is usually dispatched from and paid by DG RTD. Both the Commission and the Member States maintain offices in hotbeds of innovation and fundamental research such as China, India, or Brazil.

Hence, the prevalent modus operandi of the different European actors very much depends on individual interactions, that is, their handling of different issues on the ground. On the operational level, the scope of activities of the EC on the one hand and of the Member States on the other differs widely. S&T counselors from the Member States more often than not have to manage a well-defined set of tasks: monitoring developments in R&D on-site, providing guidance for delegations from their home country, initiating new collaborative projects, and sometimes acting as a liaison office for local administrations. Documents signed off by governments, such as the German High-Tech-Strategy (BMBF Federal Ministry of Education and

Research, 2014), mark areas of strategic priorities and define the room for maneuvering for the S&T staff overseas.

In sharp contrast to such well-structured sets of activities and priorities, the tasks of the EU delegations seem less clearly defined and organized:

> *"It really depends on the European Delegation. Their mandate from Brussels isn't always very clear, so some things are done directly with Brussels and the EU Delegation doesn't even know."* [FR-5]

Interview partners from the US were largely unaware of what exactly the EU delegation in the States did or were designed for and thus considered them to be insignificant. If they looked for the European level as a potential venue for collaborative activities, they preferred to contact their counterparts in Brussels directly.

The EU delegation is first and foremost associated with "promoting all the action of the EU in terms of science and technology" [FR-5], waving the flag of European research funding and collaborative formats like ERA or joint programming. Sometimes the delegations try to establish regular meetings of all European S&T counselors to foster an exchange of views, briefings on new developments in S&T, or alignment of national activities.

The analysis identified a good many examples of SD-related collaborations taking place, mostly based on good personal relations and mutual esteem, emerging in ad-hoc manners, and focused on project- or event-related occasions, as some quotes illustrate:

> *"We have very few cases, sometimes in Brazil, sometimes in Japan, […] for instance, when we promote* [name of national program] *jointly with the* [EU] *program, we ask someone from the EU-Delegation to participate. That are the shared interests we have. The* [name of specific EU] *programs match our own activities, there we intersect and work closely and effectively."* [DE-4]

> *"I liked the approach in India. […] There is this European roadshow, organized by the EU, and they are first-class. The EU-Delegation has a crucial part in this. I think there are about 20 stops within a month, very large events. And the EU-Delegation organizes the complete programs and the science counselors from all the Member States' embassies are invited to participate."* [DE-6]

> *"So occasionally, when you are a very good team leader active in the science and technology field in some delegations with very reasonable counterparts in the embassies, you can develop cooperative framework also in important countries."* [EC-3]

Across the board, the interview partners emphasized that the best collaborative opportunities on the operational level emerged when the regular staff of career diplomats closely collaborated with S&T counselors and supported their agenda and activities.

> *"The ambassador will come and he will support and this is good because, of course, being the embassy, rather than being just representing a research institution, it opens a door, doors that I won't be able to* [open, author's note]*."* [FR-3]

Yet the interviews also revealed complaints about lacking willingness, or even resistance, to collaborate, strained communications, and conflicts of interests between EU delegations and Member States' science counselors, causing a lot of frustration on both sides:

> *"At the beginning, we attended all these meetings at the delegation and we had some frustration because it was very top-down."* [FR-3]

> *"I remember meetings with the scientific counselor at the EU delegation in [country]. It was always having in front of him scientific counselors from all the embassies, saying 'I'm not okay with this or that.' It was very frustrating, for everybody and for the scientific counselor."* [FR-4]

The latter statement lucidly illustrates some of the challenges of the complex, multi-layered governance system of European policymaking. The EU delegations lack the financial and human resources to cover all areas of European S&T on the operational level. If they want to launch larger activities and to act effectively as match-makers for European S&T, they depend on the support from national delegations. Yet at the same time, they have next to no means to persuade, or even coerce, Member States' representatives to collaborate with them because these attempts lack jurisdictional legitimation. Hence it comes as no surprise that the EU delegations tend to focus on the external political promotion of Horizon 2020, ERA, and ERC as stellar examples of European science policy, thereby adhering to the well-established and authorized program initiatives. For this mission, they do not need the explicit approval or

support of the Member States. Examples like the roadshow in India demonstrate that collaborations take place at the local level. But ultimately, both content and scope of their activities depend on the goodwill of the Member States and the Commission.

6. Discussion

SD carries and covers a wide array of different claims, strategies, and activities. European SD is highly heterogeneous: the umbrella term gathers numerous national initiatives, bi- and multilateral projects as well as activities of the EC on an ad-hoc basis or tied to specific programs and funding schemes. Despite the blurry nature of the term, there are always areas of interaction between Member States and the EC, some of which take the form of collaboration while others indicate frictions and competition. One of the key findings of the analysis is that with regard to these areas the use of SD follows established patterns of European MLG.

On the level of strategic planning, any thought experiment to fundamentally change the regular, i.e. legally enshrined, way of handling policymaking related to SD meets strong resistance. Both the Commission and the representatives from the Member States' administrations orient their strategic actions along the lines of the European policy frameworks for science policy and foreign affairs and show no interest to forego the principles laid down in the various treaties and agreements signed during post-war European history.

Within the limits of these existing possibilities, however, an extensive field of action opens up for the Commission as a non-traditional actor, primarily within the scope of the established programmatic activities in the FP's and various programs managed by the EEAS. At the same time, the lasting sovereignty of the Member States in both policy areas allows them to operate SD largely independently and is virtually unrestricted by European regulations. Finally, at the level of local operations, questions of legitimacy and jurisdictions loose importance and become less relevant compared to questions of the functional efficiency of specific initiatives.

But how do these findings fit into the theoretical framework of MLG and what implications do they have for the governance of SD in Europe?

6.1 Theoretical implications

The empirical analysis has shown that the initial differentiation of Type I and Type II MLG governance helps to describe and understand the current state of affairs in European SD. Rights and obligations of the different actors evidently derive from core assumptions like that of *added value* which give meaning to the interviewees' own actions. The interplay of the Commission and the Member States takes its course via channels that are shaped by the regulations and institutionalized processes in the superordinate jurisdictions of science and international relations. SD, in other words, orients itself along the lines prescribed by these Type I governance systems. At most, SD has the capacity to link established orders at individual points to each other with regard to specific problems and functional requirements, thus promoting local solutions. It is not a revolutionary force that causes serious repercussions at the superordinate orders but rather a fluid Type II governance patchwork without "a general blueprint" and discreetly attached to existing institutional setups. Over time, this patchwork may itself become institutionalized and thus constitute the nucleus of a new governance system in which negotiations over boundaries and clear-cut jurisdictions come to a halt.

This interpretation also helps to explain the seeming contradiction between views that see "ample evidence that […] the EU is indeed – both rhetorically and in its actions – promoting its science diplomacy" (López de San Román and Schunz, 2018, p. 16), while others claim that it "remains merely a nascent element of the EU's external engagement in science and research" (Prange-Gstöhl, 2018, p. 164). There is evidence for both perceptions and, by using the MLG perspective, it becomes clear why. As a matter of fact, there is a range of activities of the EC that address SD-related topics, be it by participating in the discourse (e.g., strategic documents, speeches) or by using its leeway at the levels of programs and operations. However, seen from a prescriptive point of view that claims a central role for the EC in SD policymaking, the cur-

rent status with its multiplicity of autonomous actors and uncoordinated SD activities remains deficient or, put more positively, nascent.

In terms of advancing the MLG framework and the scholarship on European integration, the case of SD draws attention to the subsequent question whether the findings are characteristic for the general relation between Type I and Type II governance systems in Europe. For instance, it would be worthwhile to compare similar cases in which the policy area of foreign affairs is confronted with other jurisdictions associated with 'low' politics. The expanding list of specialized types of public diplomacy, such as cultural diplomacy or even more esoteric, sports diplomacy, might offer interesting cases for cross-sectoral comparisons (see Constantinou et al., 2016). In such endeavors, the inductive approach demonstrated in this paper could be helpful. In addition to the distinction of levels and actors which is at the core of MLG scholarship, the bottom-up reconstruction of points of interaction and the heuristic division into strategic, programmatic and operational levels could be applied to structure other Type II systems as well. This approach could be linked to the concept of boundary work insofar as the fluidity of these systems of governance points directly to the question by which means actors delineate their spheres of influence and authority and, even more, whether actors loose, merge, or reinforce their identity in the process. With regard to SD, it is not (yet) apparent that such far-reaching processes of change are taking place. Instead, actors remain firmly attached to their respective policy areas and interpret the term against the backdrop of the established MLG-framework.

At the same time, future research should ask to what extent SD serves as a label to carry the agenda of S&T policymakers into new policy fields (Edler, 2010). The interrelation of S&T policy and developmental cooperation might serve as an interesting case as it was frequently mentioned in policy documents and interviews alike (e.g., MAEA Ministry for Europe and Foreign Affairs, 2013; The Royal Society, 2010). Here, SD could be used as a new device to "hijack" programs and funds in the interest of actors from the S&T policy area.

6.2 Implications for policymaking

Having established that SD can be seen as an area of Type II governance, the question is to what degree the area is indeed fluid and mutable, that is, open to changing relations and shifts in authority. The present system is characterized by shared responsibilities as laid down in the various treaties of European integration. It is unlikely that the Type I dominated modes of governance in S&T policy and foreign affairs will change in the foreseeable future. Therefore, any potential for change would exclusively stem from variations within these existing institutional constraints. Do these limitations provide any room for maneuvering that could cause a shift in authority from the Member States to the Commission or the other way around?

There is little evidence that the representatives of the state administrations desire to reclaim authority from the European level. The Member States are in a comfortable situation to pursue their own SD, provided they have the necessary financial and scientific resources. The networks of S&T counselors are a case in point as they are maintained particularly by the larger countries whose capacities exceed those of the Commission by far. A change in the current state of SD governance, in other words, primarily prompts the question as to whether and how a change of authority towards the Commission would take place.

Overall, the most usual argument for a stronger role of the European level is attached to the idea of *added value* that guides large parts of European policymaking as described in section 3.2. The Commission could open a window of opportunity to factually gain more influence by demonstrating in which areas it could deliver a SD-related service that none of the Member States provides on its own. An added value could be, for example, that a joint approach by Member States and the Commission would prevent third countries from free-riding and cherry picking a preferred mode of collaboration which is a situation that many interview partners find alarming at present. In addition, smaller Member States like Denmark could benefit from the EU acting as a door-opener in S&T negotiations with emerging science powers like India or China:

> *"And that is what I think is simply missing for the smaller Member States, which cannot afford these very diverse bilateral cooperation arrangements because they are not in a position to do so at all in terms of personnel."* [DE-3]

> *"[…] in that sense we often feel that being a small country, that also sets limits to where we can engage ourselves…"* [DK-3]

Larger countries like Germany, France, or the UK have both the resources and the visibility to act on their own and do not need additional facilitators. But even interview partners from those countries acknowledged the advantages of joint action: "We are 80 million people and we are the fourth-largest economy, and yet we will not be seen on the global stage without Europe." [DE-1] But even though there are valid arguments accepted by all sides for the EC to take on a stronger role, the instruments to seize this role must remain within the traditional institutional boundaries. Hence, it is likely that the Commission would then emulate well-tried tools and practices of European integration.

Programs like Horizon 2020, ERA, FPI, and others, provide undisputed leeway for the Commission to engage in, and generate a SD that is autonomous from that of the Member States. Building on the FPs, the Commission has sufficient leverage to effectively nudge and push European R&D towards pressing political challenges. DG RTD, for instance, has set up a number of funding calls explicitly geared towards the promotion of SD. These funding initiatives illustrate that the Commission's ambition to follow through with its distinct political priorities without touching upon existing boundaries and to advance its own idea of SD without calling for new agencies or structural changes in the institutional setup of European S&T and foreign policy. However, to ensure the legitimacy of European research, the EC must be careful not to create the impression that funding decisions follow political interests.

Aside from the program level, it is neither undisputed nor surprising that the EC also strongly contributes to the ongoing discourses on SD (López de San Román and Schunz, 2018). The participation in the discourse is relatively uncomplicated, as it requires considerably less coordination processes or program budgets and comes with fewer obligations at first. For in-

stance, Commissioner Moedas has repeatedly used the term "science diplomacy" to frame international S&T ambitions and activities of the EC under an umbrella of shared (scientific) values, international academic exchange, and peaceful collaboration (Moedas, 2017). The idea of a *global research area* that Carlos Moedas has come up with in 2016 may seem utopian, but it definitely provides an attractive beacon for international cooperation in the field of S&T. The project is very well in line with the basic values of Europe's "normative power" such as democracy, academic freedom, or responsible and sustainable innovation (López de San Román and Schunz, 2018). It serves as an example to the Commission's role as an agenda setter beyond legally legitimate formal program initiatives. Programmatic and discursive initiatives thus form the backbone of EC engagement in SD that could be stepped up in the future without having to worry about conflicts or power shifts between the European level and that of the Member States.

With regard to this inter-level interaction, a commonly accepted way of avoiding conflicts over jurisdiction in areas of Type II governance is to establish organizational entities that balance and coordinate diverging interests (Ewert and Maggetti, 2017; Hooghe and Marks, 2003). For instance, a process analogous to the *open method of coordination* (OMC) could be a way to reach alignment of national and EC objectives, interests, and methods in SD (see also Kaiser and Prange, 2004; Kerber and Eckardt, 2007). Just as the participation in the OMC is voluntary, Member States could choose not to engage in this coordinating process or to opt out. To some extent, the *Strategic Forum for International S&T Cooperation* already provides such a venue for networking and strategic planning and decision-making on a European level. However, those of the interview partners who brought this topic up held widely conflicting views on this committee, characterizing it either as an excellent forum for coordination or as a highly inefficient discussion circle.

Apart from the dimension of inter-level interaction, it is also important to focus attention to the intra-level interaction within the EC. At present, it seems that the different bodies and

agencies of the EC collaborate more on an ad-hoc basis without an overarching strategy, which is not all that surprising, considering our knowledge of diverging priorities and agendas *within* the Commission (Banchoff, 2002; Rip, 2016). It seems that the different Directorates General are still struggling with the whole idea of SD.[6] An interviewee from the Commission pointed out that the EEAS is a rather young institution that is still exploring venues and methods for its diplomatic activities.

> *"You tend to find first of all a place for itself and then probably there would be a place to search for opportunities to reach out to other communities with an interest and with potential added value in foreign policy."* [EC-3]

Perhaps it is too early to speak of joint action by the Commission (if this situation can be achieved at all). The established division of labor between the different DGs and the focus on exclusively managed programs (e.g. FPs, ERA-NETs, FPI) may also prevent the Commission from refocusing and taking effective and concerted action.

An MLG-inspired approach to replace temporally and locally limited SD projects could result in setting up a specialized service center that acts as an in-house consultancy and could pool and coordinate competencies that nowadays are scattered across all the Commission's DGs and agencies. Interestingly enough, the interviewees addressed individual aspects of such a center, i.e. promotion, coordination, mediation, or training, but no one considered bringing them together in one institution.

7. Conclusion

So far, SD is little more but an addendum to the well-established, Type I dominated policy areas of foreign affairs and science policy. While the term itself is rather new, it has not shaken up the established logics and practices of either field in the EU, but creates a potentially fluid intersecting space between both. Based on the empirical data and theoretical considerations,

[6] At the European Parliament, as another of the central European institutions, the term SD even comes up only occasionally in resolutions and briefing documents, or with regard to specific programs.

potential for shifts in authority between the EC and the Member States mainly stems from providing complementary services and added value to national activities. Over time, seizing the role of a coordinating actor could cause a shift in authority and subsequent changes in the Type II governance of SD, leading to a soft integration of SD agendas and actions at the European level. Examples from the past illustrate that the EC can indeed seize an entrepreneurial role in agenda setting under the right conditions (Edler and James, 2015), but the empirical evidence from the interviews does not contain much information that points in that direction.

More generally, the focus on SD also yields some interesting ideas for advancing the MLG perspective. Future research should to pay more attention to the interplay of Type I and Type II governance systems in order to develop a more thorough understanding whether there are re-occurring patterns and characteristic relations between both types regardless of the specific policy field.

There is one caveat to the present analysis. Since the findings are based on qualitative expert interviews, future research should aim to substantiate or to challenge the qualitative insights presented in this paper. This is particularly true for the UK-based interviews that were conducted against the backdrop of ongoing Brexit-negotiations. The British interviewees could of course be interviewed about the then current interactions with Brussels regarding SD, yet they were careful to comment on the events linked to the UK leaving the EU and thus concerning the future relations to the Union.

The discussion highlights potential gateways for change, but whether the Commission will seize these options—and the Member States will follow suit—remains to be seen in the future. Any attempt to introduce a new independent EC SD must accommodate for the largely diverging agendas, claims, and resources of the Member States and the Commission. The institutional divide between different DGs just adds another constraint to such an endeavor. It remains to be seen whether and on what counts the EC may successfully employ SD as a transformative power to expand its competencies any time soon.

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